

A New Species of *Bolinus* (Gastropoda: Muricidae) from the Caribbean Sea

by

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Abstract. The first species of the genus *Bolinus* Pusch, 1837, from the New World was collected at Isla La Blanquilla, Lesser Antilles, Venezuela. The new species is compared with the type of *Bolinus*, *B. brandaris* (Linnaeus, 1758), from the Mediterranean and *Haustellum chrysostoma* (Sowerby, 1834), a related muricid found off the northern coast of South America. Further comparison is made with *H. mimiwilsoni* Vokes, 1990, and a lot of 13 specimens identified as *H. chrysostoma* from the Plio-Pleistocene Cumaná Formation, Cumaná, Venezuela.

INTRODUCTION

When eight specimens of a muricid species from the southern Caribbean were brought to us, we realized that they were different from any known muricid species. We were unsure of their generic placement since they resembled both *Haustellum* Schumacher, 1817, and *Bolinus* Pusch, 1837. Both genera are described as having a globose body whorl with a long, tubelike canal, a well-developed parietal callus, inductura and rugae on the columellar lip, and no labral tooth. Species in the genus *Haustellum*, as redefined by Ponder & Vokes (1988), have three varices on the body whorl, whereas species of *Bolinus* have five to seven. The eight specimens under study have four to five varices on the body whorl. We have therefore placed the new species in *Bolinus*.

Institutional abbreviations are as follows: LACM, Natural History Museum of Los Angeles County; MNHN, Museum National D'Histoire Naturelle, Paris; SBMNH, Santa Barbara Museum of Natural History; SDNHM, San Diego Museum of Natural History; UCMP, University of California, Museum of Paleontology, Berkeley; USNM, National Museum of Natural History, Smithsonian Institution.

SYSTEMATICS

MURICIDAE Rafinesque, 1815

Bolinus Pusch, 1837

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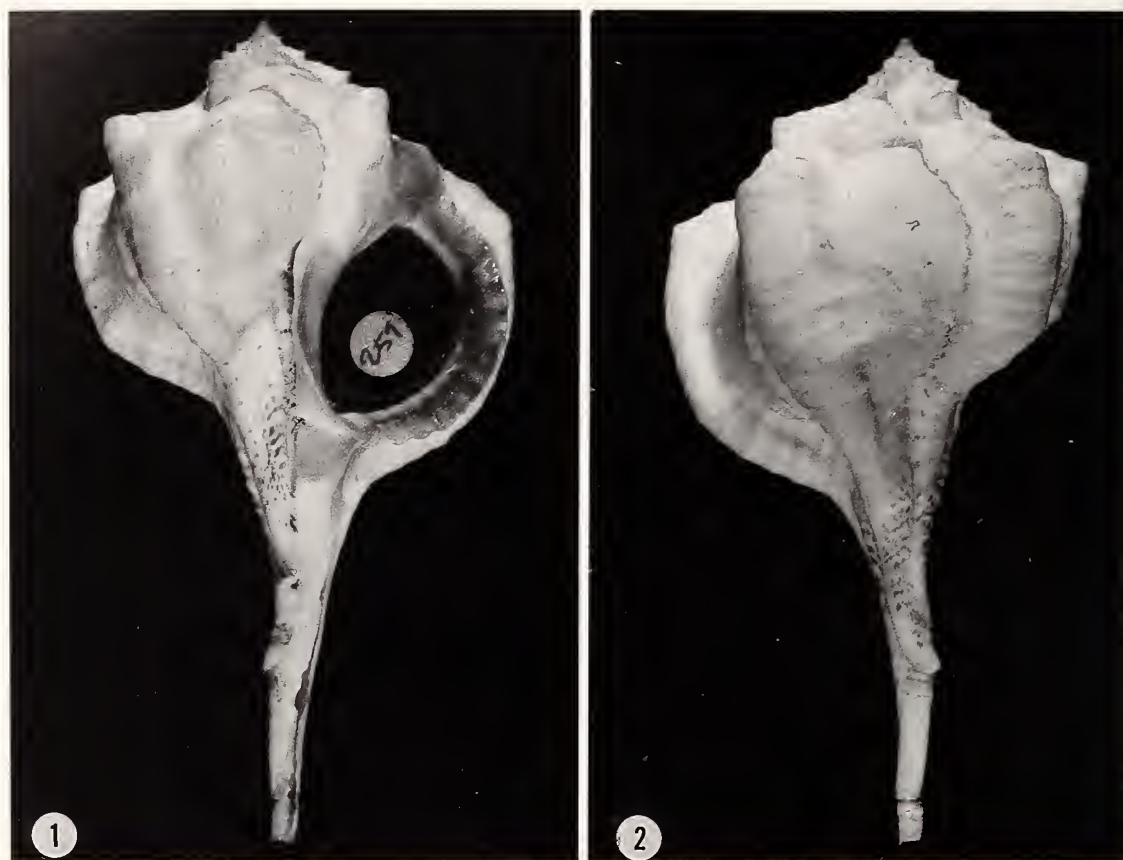
Type species: *Murex brandaris* Linnaeus, 1758, by original designation.

Bolinus hamanni Myers & Hertz, sp. nov.

(Figures 1, 2)

Description: Shell moderately large, heavy, club-shaped; body whorl convex, angulate, broader than high; spire low. Protoconch eroded on holotype. Eight teleoconch whorls; suture irregular, weakly impressed; aperture large, broadly ovate, outer lip thickened, projecting, sharply crenulate reflecting spiral cords; inner surface of outer lip with 16 elongate lirae; columellar lip adherent above expanding to large inductura below, broad shallow anal sulcus separating columella and outer lip; four very faint lirae on columella; entire aperture glossy with cream to deep orange stain. Siphonal canal long, narrowly open, 50% of total shell length, distal end slightly recurved, deflected dorsally and to the right. Body whorl with five thick, rounded varices, developing strong blunt nodes at shoulder; penultimate whorl with four varices. Varices extending from suture across shoulder and terminating midway down siphonal canal; one intervarical node between fourth and fifth varices. Spines lacking. Sixteen weak, irregular spiral cords on body whorl, cords more pronounced on varices. Operculum corneous, unguiculate with five wide concentric ridges, nucleus subterminal. Radula unknown. No soft parts available for study. Shell cream-colored, shading to deep orange on aperture and showing through at leading edge of varices. No periostracum apparent.

Paratype (SBMNH) with partial protoconch of one whorl, smooth, glossy, amber-colored. Two paratypes (SBMNH and MNHN) with four varices; paratype (Ha-



Figures 1 and 2

Bolinus hamanni Myers & Hertz, sp. nov. Holotype, USNM 860363. Height 101.4 mm, width 53.0 mm. Isla La Blanquilla, Lesser Antilles, Venezuela (11.53°N, 64.38°W) on coarse, clean sand in 18–25 m. Figure 1. Apertural view. Figure 2. Dorsal view.

mann collection) with five varices. All paratypes noded at shoulder and base of body whorl. Paratype (SBMNH) with one node each between second and third and third and fourth varices; paratype (MNHN) with one node each between third and fourth varices and fourth varix and aperture; paratype with immature lip (Hamann collection) with one node each between third and fourth and fourth and fifth varices. Two paratypes (SBMNH and MNHN) with one spine on posterior end of canal and one spine behind inductura; Hamann paratype with spine on posterior end of canal only.

Etymology: It gives us great pleasure to name this species in honor of Gregg Hamann of El Cajon, California, who collected and donated the type specimens.

Type locality: Isla La Blanquilla, Lesser Antilles, Venezuela (11.53°N, 64.38°W) on coarse, clean sand in 18–25 m.

Type material: Holotype USNM 860363, 101.4 mm long, 53.0 mm wide. Paratypes: MNHN, 96.7 mm long, 50.9

mm wide; SBMNH 35649, 94.4 mm long, 54.0 mm wide; Hamann collection, 109.4 mm long, 56.1 mm wide.

Other material studied: Four specimens measuring 100.7 mm long, 52.1 mm wide to 92.8 mm long, 51.6 mm wide, all from the type locality and retained in the collection of Gregg Hamann. Two of the specimens have five varices, and the remaining two specimens have four. The number of lirae on the inner surface of the outer lip varies from 13 to 16, and the number of faint lirae on the columellar lip varies from two to nine. Two of the specimens with five varices have an elongate node abutting the receding side of two varices. All have two spines, one behind the inductura and one on the posterior end of the canal.

Remarks: *Bolinus hamanni* was compared with *Bolinus brandaris* (Linnaeus, 1758), the type of *Bolinus*, and the similar appearing species *Haustellum chrysostoma*, both Recent specimens in the LACM, SDNHM, and Hamann collections, and the Plio-Pleistocene *Haustellum mimiwilsoni* (Vokes, 1990:16, pl. 2, fig. 1) (UCMP 14142) as well as a lot of 13 specimens (UCMP S-110/38646) identified

by Vokes (1990:16, pl. 1, fig. 10) as *H. chrysostoma*, from the Cumaná Formation, Cumaná, Venezuela.

Bolinus hamanni is similar in overall size and shape to *B. brandaris* and has the angulate body whorl, parietal callus and inductura typical of the genus; however, it lacks the strong spines and spiral cords of *B. brandaris* and has four to five varices. *Bolinus brandaris* has five to seven varices.

Bolinus hamanni also resembles *Haustellum chrysostoma*, but is a larger, heavier species attaining a length of 109.4 mm with a low spire compared with the more delicate appearing, higher spired *H. chrysostoma*. *Bolinus hamanni* has four to five thick, rounded varices with faint spiral sculpture, whereas *H. chrysostoma* has three rounded varices, deeply furrowed on the receding side, and spiral sculpture of numerous major and minor cords. *Bolinus hamanni* has occasional intervarical nodes, whereas *H. chrysostoma* has regular, axial intervarical sculpture consisting of a single short ridge, nodose at the shoulder, and weaker costae. *Bolinus hamanni* has four faint lirae on the columellar lip; *H. chrysostoma* has numerous, stronger elongate lirae.

Comparison with the similar appearing Plio-Pleistocene species *H. mimiwilsoni* from the Cumaná Formation, Venezuela, reveals several differences. *Bolinus hamanni* reaches a length of 109 mm with four to five rounded varices and has an irregular, weakly impressed suture and broad anal sulcus. *Haustellum mimiwilsoni* is a 60 mm-long trivariate species with a deep channeled suture, having varices greatly excavated on the receding side and lacking an anal sulcus.

Thirteen Plio-Pleistocene specimens, also from the Cumaná Formation, were borrowed from the Museum of Paleontology, University of California, Berkeley (UCMP 38646). This material had been examined by Vokes (1990:16) who noted that there were several specimens of *Haustellum chrysostoma* as well as "several examples that are either gerontic or some sort of ecological variants" (Vokes, 1990:fig. 10). Of the 13 specimens, five have three varices furrowed on the receding side, strong spiral sculpture and intervarical axial sculpture, and eight have four varices on the body whorl not furrowed on the receding side. Vokes

added that the [gerontic] specimens began as normal shells of three varices, but developed the extra varix on the body whorl. We observed that three of the eight also have four varices on the penultimate whorl. All have only occasional intervarical, axial sculpture. One specimen, however, has furrows on the receding side of the first two varices. All the canals are broken. These fossil specimens, if complete, would approach the size of Recent *H. chrysostoma*, but *B. hamanni* is a much larger species which has a body-whorl diameter of 50–56 mm. The body-whorl diameter of the fossil specimens is 30–35 mm. *Bolinus hamanni* has a broad anal sulcus with four very faint lirae on the columella, whereas the fossil specimens have an anal sulcus narrow to lacking and at least 10 strong rugae on the columella.

ACKNOWLEDGMENTS

We wish to thank D. R. Lindberg of the University of California Museum of Paleontology, Berkeley, and J. H. McLean of the Natural History Museum of Los Angeles County for the loan of specimens from their institutions. We are grateful to the San Diego Natural History Museum for making their facilities, library, and collection available to us. We thank Gregg Hamann of El Cajon, California, for bringing the specimens to our attention and donating the three type specimens. We further appreciate the fine photographs of the holotype by D. K. Mulliner. E. H. Vokes and A. D'Attilio kindly read the manuscript and gave encouragement and constructive comments.

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